January 14, 1960

Dear Doc:

Variables Required to Compute
Loss of Resolution of Camera-Film Combination
Due to Turbulent Boundary Layer

1. Shape of nose
2. Location of window in nose (center line position)
3. Mach number and angle of attack
4. Altitude
5. Material of window (The thermal conductivity should be known at elevated temperatures)
6. Thickness of window
7. Temperature of camera cavity

   If several objects of different temperature, need to know size, shape, and position of each to calculate radiation to window.
8. Window size and arrangement if more than one window or if window larger than about 1 foot in streamwise direction.
9. Camera focal length and shape of image plane ie, flat, cylindrical, etc
10. Pressure of camera cavity (not critical)

Notes (1) For a conical nose, can make a fairly accurate first approximation in two weeks for a given configuration; with an additional week, can study some parametric changes.

(2) Body noses other than conical will probably involve further analysis.

STATINTL
[redacted]

January 14, 1960

Dear Doc:

STATINTL GROSS ESTIMATE OF TYPICAL COSTS

[redacted]

STATINTL [redacted] The above cost information is indicative of approximately two weeks of intensive effort. Since the magnitude of the problem has not been defined in detail to us, it is not possible to indicate at this writing whether the desired initial study can be done in two weeks or two months.

STATINTL All personnel above, with exception of illustrator and [redacted] are cleared but not briefed. The illustrator is neither cleared nor briefed. [redacted] is cleared and briefed on
STATINTL Sea.

STATINTL [redacted]